

a flexible connector attached between the first and second substrates by a plurality of contacts on a first and a second surface of the connector, wherein all of the contacts on the first and second surfaces alternate with respect to each other, and wherein the coefficient of thermal expansion of the connector is approximately midway between the first and second coefficient of thermal expansion.

3. The electronic device of claim 1, wherein the connector comprises a laminate material.

4. The electronic device of claim 3, wherein the laminate material comprises:

- a core;
- a dielectric material surrounding the core; and
- a solder mask.

5. The electronic device of claim 4, wherein the laminate further includes a plated through hole.

6. (Previously Amended) The electronic device of claim 4, further including a connection between at least one contact on the first surface and at least one contact on the second surface.

7. (Previously Amended) The electronic device of claim 6, further including a ground shield over the connection.

8. The electronic device of claim 4, wherein the core comprises a material selected from the group consisting of: copper-invar-copper, copper, stainless steel, nickel, iron and molybdenum.

9. The electronic device of claim 4, wherein the dielectric material comprises polyimide.

10. The electronic device of claim 1, wherein the contacts comprise ball grid array connections.

11. The electronic device of claim 1, wherein the first substrate comprises a chip package.

12. The electronic device of claim 1, wherein the second substrate comprises a printed circuit board.

13. The electronic device of claim 1, further comprising a stiffener frame attached to the connector.

14. The electronic device of claim 13, wherein the stiffener frame is adhesively attached to the connector.

15. The electronic device of claim 13, wherein the stiffener frame surrounds a perimeter of the connector.

16. The electronic device of claim 13, wherein the stiffener frame is removably attached to the connector.

17. The electronic device of claim 13, wherein the stiffener frame is attached to a surface of the connector.

18. The electronic device of claim 13, wherein the stiffener frame comprises a material selected from the group consisting of: plastic, metal and ceramic.

19. The electronic device of claim 13, wherein the stiffener frame comprises a heat sink.

20. (Previously Amended) A connector system, comprising:

a flexible substrate having a core surrounded by a compliant material;

at least three contacts on a first surface of the substrate; and

at least three contacts on a second surface of the substrate, wherein the contacts on the first surface of the substrate are alternatingly off-set from the contacts on the second surface of the substrate.

22. (Previously Amended) The connector system of claim 20, wherein the flexible substrate further comprises:

a solder mask over the compliant material.

23. (Previously Amended) The connector system of claim 20, wherein the flexible substrate further includes a plated through hole.

24. (Previously Amended) The connector system of claim 20, further including a connection between at least one contact on the first surface and at least one contact on the second surface.

25. (Previously Amended) The connector system of claim 20, further including a ground shield over the connection.

26. (Previously Amended) The connector system of claim 20, wherein the core comprises a material selected from the group consisting of: copper-invar-copper, copper, stainless steel, nickel, iron and molybdenum.

27. (Previously Amended) The connector system of claim 44, wherein the dielectric material comprises polyimide.

28. The connector system of claim of 20, wherein the contacts comprise ball grid array connections.

29. The connector system of claim 20, further including a stiffener frame.

30. The connector system of claim 29, wherein the stiffener frame is removably attached to the flexible substrate.

31. (Previously Amended) A method of forming an electronic device, comprising:

providing a flexible connector having a core surrounded by a compliant material, and a plurality of alternating contacts on a first surface and a second surface of the flexible connector, wherein at least three contacts in succession on the first surface alternate with at least three contacts in succession on the second surface; and

attaching the flexible connector between a first substrate and a second substrate via the contacts.

32. The method of claim 31, wherein the flexible connector comprises a laminate material.

33. The method of claim 31, wherein the contacts comprises ball grid array connections.

34. The method of claim 31, wherein select contacts on the first surface of the flexible connector are off-set from select contacts on the second surface of the flexible connector.

35. The method of claim 31, wherein the first substrate comprises a chip package.

36. The method of claim 31, wherein the second substrate comprises a printed circuit board.

37. (Previously Amended) A method of forming an electronic device, comprising:

providing a first substrate having a first coefficient of thermal expansion;

providing a second substrate having a second coefficient of thermal expansion;

providing a flexible connector having a coefficient of thermal expansion between the first and second coefficient of thermal expansion, and having at least three alternating contacts on a first surface and at least three alternating contacts on a second surface of the connector; and attaching the contacts on the first surface of the connector to the first substrate and the contacts on the second surface of the connector to the second substrate.

38. The method of claim 37, wherein the first substrate comprises a chip package.

39. The method of claim 37, wherein the second substrate comprises a printed circuit board.

40. The method of claim 37, wherein the flexible connector comprises a laminate material.

41. The method of claim 37, wherein the contacts comprise ball grid array connections.

42. A method of forming an electronic device, comprising:

providing a flexible connector having a plurality of alternating contacts on a first surface and a second surface of the flexible connector, and a stiffener frame surrounding a perimeter edge of the flexible connector; and

attaching the flexible connector between a first substrate and a second substrate via the contacts.

43. (Amended) A connector system, comprising:

a flexible substrate having a core surrounded by a compliant material; and at least three contacts located at a far distance to a neutral point (DNP) on a first surface and at least three contacts located at a far distance to a neutral point (DNP) on a second surface of the substrate, wherein the contacts are off-set.

44. The connector system of claim 20, wherein the compliant material comprises a dielectric material.

REMARKS

Claims 1-44 are pending in this application. Claims 2 and 21 have been withdrawn from consideration. Thus, currently pending claims 1, 3-20, and 22-44 are for consideration by the Examiner. Claims 1, 6-7, 20, 22-27, 31, and 37 were previously amended prior to the present office action response. By this amendment, claim 43 has been amended to correct a typographical error only. Reconsideration and allowance in view of the following remarks are respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116(a) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal, should an appeal be necessary.

Claims 1, 20, 22, 26, 28, 31-41 and 43-44 are rejected under 35 U.S.C. §102(b) as being anticipated by Appelt *et al.* (US 5,900,675, hereinafter “Appelt”). Claims 3, 4, 8, 10-12 and 32-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Appelt in view of Lee (US 6,050,832). Claims 5-7 and 23-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Appelt in view of Lee in further view of Nguyen (US 5,477,933). Claims 9 and 27 are rejected under